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ABSTRACT

This publication presents adaptations of four papers given at a workshop on Staffing and Manpower Development, sponsored by the Mental Health Manpower Development project of the Southern Regional Education Board. The introduction delineates four dimensions to be considered in describing staffing patterns (organization, utilization, type, and number of staff), and enumerates four basic questions for the development of staffing pattern surveys. "Issues of Mental Health Manpower Development: Retrenchment to Management Theory," by Arthur L. Slater, develops the thesis that the principles of mental health manpower development are consistent with management principles and practices. "Considerations in Staffing Mental Health Agencies," by Anne S. Goodman, describes major methodologies for developing staffing patterns, proposes an expansion in their scope, and discusses means for assessing the adequacy of mental health staffing patterns in meeting agency goals and community needs. "Implementing Staffing Patterns: Florida's Experience," by Robert C. Ashburn, describes the development of staffing standards for five types of units in Florida's state mental health facilities: children, adolescent, forensic, adult/geographic, and geriatric. "Manpower Needs Assessment Methods," by Paul M. McCullough, provides an overview of needs assessment techniques based on four different types of manpower issues: services required, manpower requirements, workforce planning, and staffing needs planning. The use of forecasting in manpower development is also discussed. (MCF)

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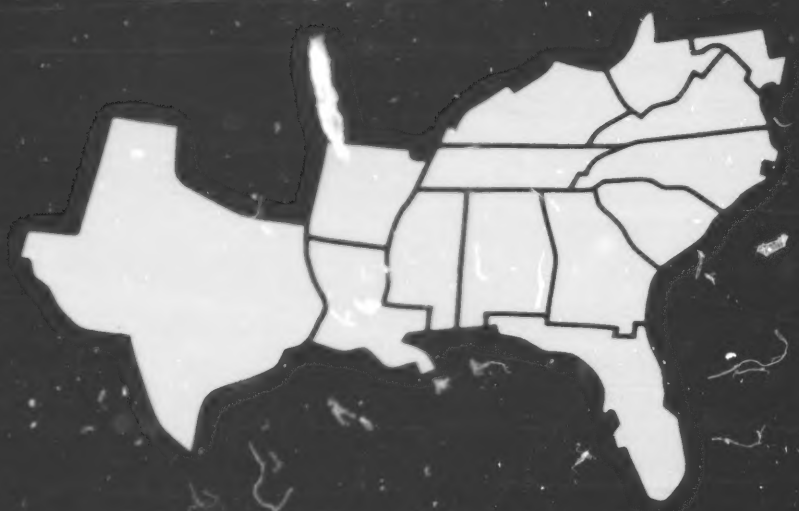

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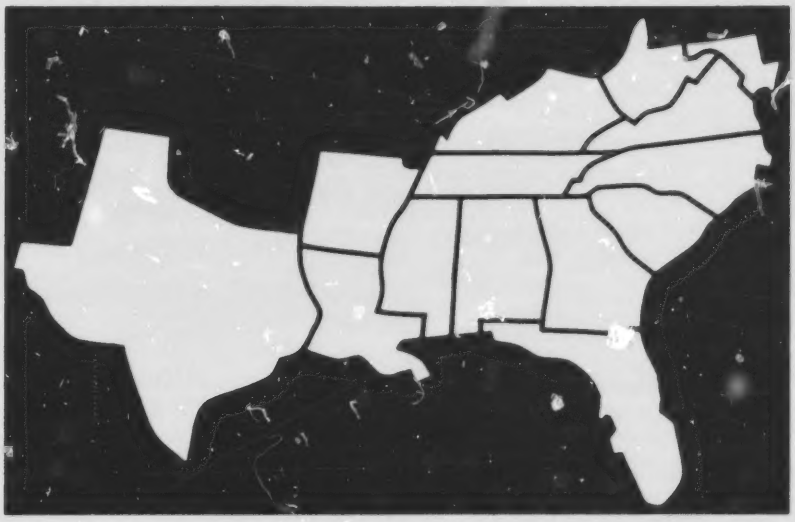
STAFFING PATTERNS AND STATE MENTAL HEALTH MANPOWER DEVELOPMENT



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FOREWORD

In July 1977, the Southern Regional Education Board (SREB) began a project to assist the 14 Southern states to develop their capabilities in the area of mental health manpower development. Some of the more persistent questions were centered around the issue of "staffing patterns." What is a staffing pattern? How do we develop one? What are the staffing standards? How do we decide if our staffing is adequate?

In February 1979, a group of state manpower development representatives met to clarify some of these questions on staffing and seek some answers. This group met periodically until May 1980, when the SREB mental health manpower development project conducted a workshop on "Staffing and Manpower Development" to share the task force's findings.

This publication presents adaptations of the papers given at that workshop as well as highlights from task force discussions. The problem of developing a model or "best" staffing pattern has not been solved. However, many of the issues have become more clear. We hope that this publication will assist readers in deciding how to proceed with their own staffing problem.

We wish to thank the members of the task force for their efforts in putting this document together.

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INTRODUCTION

Questions regarding staffing patterns stem from various sources, for example:

- In complying with staffing standards;
- In allocating adequate resources to perform desired services;
- In developing new services and delivery systems; and
- In judging the adequacy of existing staffing patterns.

Perhaps the simplest way to ask the question is, "What staffing pattern do we need to operate Program X?" The questioner is often looking for one of the following: (1) a model staffing pattern which is known to be successful; (2) staffing standards that have been established as minimal or ideal; or (3) a method for developing a staffing pattern that can be easily applied to the program. The questioner and the responder should clarify which type of answer is being sought or given.

Also, it is not always clear what is meant by the phrase "staffing pattern." To most people it refers only to the numbers and types of mental health disciplines used in a program. However, as used in this publication, the phrase "staffing pattern" includes four dimensions, each of which should be considered in describing the staffing of a program.

1. Organization of staff, which describes the structure and relationships of workers;
2. Utilization of staff, which describes the functions, activities, or tasks the workers perform;
3. Type of staff, which describes the discipline, education, and experience or skill of workers;
4. Number of staff, which describes how many of each type of staff.

A response that is couched only in terms of numbers and types of staff, has little meaning unless there is also information on how staff are organized and used. In turn, the organization and utilization of staff should be influenced primarily by what is to be accomplished by the service delivery system. Therefore, two primary considerations in determing the staffing pattern for any program are (1) the desired goals and objectives of the program, and (2) the constraints within which the service program exists. A staffing pattern--the organization, utilization, type, and number of staff--is the end result of the interplay of these considerations and the decisions made about them.

Based on these concepts, four important questions emerge when developing a staffing pattern:

1. What work is to be done? This is influenced by:
   - Mandates regarding the program;
   - Philosophies of treatment, organization, intervention;
   - Purposes and needs to be met;
   - Results to be achieved;
   - Types of services desired.
2. How will staff be organized? This is influenced by:
   - Number of workers and size of unit;
   - Types of teams and their functions;
   - Types of workers in terms of skills and abilities, or if mandated, education and other credentials;
   - Facility characteristics in terms of location, architecture, setting;
   - Types of tasks to be done.

3. How will staff be utilized? This is influenced by:

   - Staff functions and distribution of work;
   - Client characteristics in terms of number, disability level, problems;
   - Service setting, such as home, hospital, prison;
   - Regulations and legal requirements.

4. What are the environmental constraints? These are determined by:

   - Supply of manpower;
   - Personnel procedures;
   - Funding and reimbursement patterns;
   - Political climate.

These questions and the variables which influence them, provide guidance for the development of surveys regarding staffing patterns. However, such surveys usually suffer from the fact that "numbers" do not adequately describe the many variables that enter into specific staffing decisions. As a result, the data gathered usually indicate staff-to-population and staff-to-patient ratios which depend on local administrative, programmatic, and budgetary changes. For example, the ratio of staff-to-population in a forensic services program can be dramatically altered by a local court decision or legislative mandate to start (or stop) a specific practice. These ratios tend to be more dependent on environmental factors than on basic program needs. In addition, staff-to-client ratios do not provide indicators of real work load unless the ratios are specific to those client characteristics which have a major influence of the work to be done. Finally, to judge the effectiveness of efficiency of a staffing pattern, we need information beyond just the organization,

utilization, type, and number of staff. We also need information on costs, output, and the relation of output to objectives.

The intent here is to introduce the reader to some basic issues relative to staffing patterns and provide an orientation to some of the methods in use. The development of an adequate staff who are doing the "right" thing in the "right" place at the "right" time is a dynamic process and is a primary function of program management.

One issue in developing staffing patterns concerns the phrase "work to be done." A distinction is made here between what is to be done (work, tasks) and what is accomplished by that work (results). In developing staffing patterns, it is logical to describe the work required to produce the desired services. The type and amount of work then become the basis for deciding the type of staff required and their number. It is important to remember that the desired goal is the results of the work and not the work itself.

One function of management is to be sure that the results to be accomplished are clearly stated before tasks are defined. Another function is to continually assess whether a different organization of work or utilization of workers can produce more effective or efficient use of manpower. One characteristic of quantitative methods of developing staffing patterns is that they tend to emphasize the units of work rather than the results of work. As in other instances, information in the form of data does not eliminate the need for informed judgment in decision making. Decisions about staffing patterns are no exception.

ISSUES OF MENTAL HEALTH MANPOWER DEVELOPMENT: RETRENCHMENT TO MANAGEMENT THEORY

Arthur L. Slater*

After 10 years as a researcher and manpower planner, the tools of the trade have become familiar. However, it still can be confusing to listen to some manpower planners because of a major problem with terminology. Manpower planners often use terms in different ways and, consequently, do not communicate effectively. For example, the term "manpower development" is often used to simply mean training. For others, it means "the sum total of all activities designed or employed to increase the numbers or effectiveness of personnel engaged in delivering mental health services to clients or communities."[1] This latter definition makes manpower planning a major function of management. In the context of management, some initial considerations are: Is the term "manpower development" restricted to mental health? Do other social service programs develop manpower? Is manpower development a concern of private industry? Of course, the answers are "yes."

The point of view of this paper is that the principles of mental health manpower development are consistent with accepted management theory; one needs to understand management principles to be a successful manpower developer.

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*Arthur L. Slater is a research consultant in Tallahassee, Florida. Paper adapted from a presentation at a workshop on Staffing Patterns and Manpower Development, May 29-30, 1980, sponsored by the Mental Health Manpower Development project of the Southern Regional Education Board.

Mental health manpower development will begin to realize its potential when it gets past the glamor of doing something new and unique and begins to use the same basic management principles practiced by successful entrepreneurs, corporations, social service organizations, and governmental programs.

The purpose of this paper is threefold: first, to outline a number of ideas and concepts that have been useful in organizational planning and manpower development; second, to look at our practices before proceeding with our serious work with renewed determination; finally, to raise important issues that will stimulate discussion on these matters.

FALLACIES

There are a number of common fallacies which can interfere with manpower planning. While each concept related to the fallacies is important and has its own place, an overemphasis in any one area can hinder planning efforts.

Fallacy Number 1: Standard Staffing Patterns. The rationale goes something like this: "If we can just identify a cross section of programs similar to ours and determine their staffing patterns, we will be able to draw conclusions about our manpower requirements."

In essence the fallacy is that norms will provide us with ideal standards. However, the logic is poor. Paying school teachers a salary based on the national average will not ensure a good school program or satisfied teachers. Norms are often good for cross comparisons of similar programs, but they should not be used directly for setting standards. On the contrary, it is time for extraordinary and exemplary innovations in mental health staffing.

Fallacy Number 2: Definitive Staffing Standards Exist. This fallacy is very seductive. If some authoritative body would come up with staffing standards, then we would know what to do. The Joint Commission on Accreditation of Hospitals (JCAH) or the Southern Regional Education Board (SREB) could do it. Knowing that someone somewhere must be working on the problem, we tend to wait for the standards to be established.

Interestingly, when the judge in the Wyatt vs. Stickney case in Alabama imposed standards, or when JCAH becomes too specific, we always find fault with their decisions. The task is our responsibility at the operational level, not someone else's.

Fallacy Number 3: Reorganizing. We could really do a good job, if the organization didn't work against us. However, the magic organizational formula will probably never be found.

When people are frustrated, they tend to blame the structure of the organization. Organizational structures do get old and often need revamping. But, the revamping should be a continuous and gradual process. Organizational functions should be consolidated, phased-out, or generally fine-tuned. A bright and motivated staff with a poor organizational structure will usually make it work. A demoralized staff in a good organizational structure will almost surely have a hard time of it.

Fallacy Number 4: Credentials. A program planning conversation might go like this, "I need three social workers, one psychiatrist, seven psychologists, and 30 aides to do the work. However, I could also use two psychiatrists, no social workers, six nurses, three psychologists, and 15 aides."

The major issue is not the number of the big four mental health professionals with enough helpers to go around, but rather what needs to be accomplished--what outcomes are expected and what work needs to be done to get these outcomes. The next issue is to organize the essential work into jobs. A major decision is whether to create jobs geared to specific tasks or design jobs so that individuals perform a broad range of the essential tasks. Each profession seems to believe it has a corner on doing just about everything, at least according to the professional practice acts enacted in many states.

It's time that we specify the desired client outcomes, determine what is necessary to achieve them, and yield turf to those individuals who can and want to do the work. Manpower development programs need to identify the essential activities related to outcomes and develop a flexible manpower pool that can perform those activities.

Fallacy Number 5: Efficiency. We must be efficient; we must do it cheaper; we must process folks more quickly. Although administrative costs must be controlled in the social and human services, effectiveness is the first issue. Are we doing what we should? Does the job get done? What are the effects of our activities? Once our programs become effective, we can be concerned with getting the job done as quickly as possible as the lowest cost.

Fallacy Number 6: Imitation. What are they doing in California, New York, or Texas? It is natural to look to other places for solutions to common problems, but rarely are prepackaged solutions found. The multiplicity of

variables from location to location is just too great to adopt prepackaged programs. At best, programs and systems might be adapted to your situation.

Careful needs assessment and careful program planning will yield better results. We need to do our homework, and we must do that work creatively. We need innovation in service delivery, not more of the same. For example, it would truly be a tragedy for paraprofessionals to become office-bound and accustomed to the magic 50-minute hour.

Fallacy Number 7: Task Analysis. This is a very interesting technology but it is only a descriptive tool. Many organizations have done good task analyses and have developed extensive training programs based on the findings. However, task analysis often assumes that the current activities of the organization are adequate and effective. When this assumption is made, the status quo is institutionalized. Task analysis can also be used to analyze the difference between what is and what should be. The "what is" is descriptive and the "what should be" is prescriptive. When the discrepancy is small, only fine-tuning needs to be done. When the discrepancy is great, fundamental changes in the structure of the system may be necessary.

Manpower planners have at one time or another fallen prey to each of these fallacies. More important, each of them also represents a useful manpower planning tool when used with discretion and foresight. Staffing standards, reorganization, credentialing, efficiency, imitation, and task analysis can all be useful. The purpose of a manpower development program

is to find answers to real service delivery problems, rather than to simply become involved in intriguing work processes which may produce artificial constraints.

THESIS

Returning to the thesis that the principles of mental health manpower development are consistent with management principles, management practices can be described most simply as: 1) planning 2) organizing; 3) staffing; 4) directing; 5) controlling; and 6) revising as required.[2] Two of these practices are of critical importance to mental health manpower development, i.e., organizing and staffing. However, service planning is an essential prerequisite to the manpower development process. This needs repetition because it is so important. Service planning is a necessary prerequisite to manpower planning in mental health, human services, business, or industry.

Service Planning

Service planning starts with "forecasting," i.e., predicting where the present course will lead. For example, the movement toward deinstitutionalization started with the observation that inpatient care was a disservice to many patients and made rehabilitation almost impossible. However, it was forecast that many hospitalized people could not survive in the community even if traditional outpatient services were available. One alternative was to create community support programs in which at least some persons might be helped and rehabilitated.

The second step in service planning is to "set objectives," which means to determine the desired outcome for clients. In the case of deinstitutionalization, it was to create appropriate services between hospital and outpatient care which would foster and promote the desired outcome of independence for clients.

The third step is to develop a strategy for achieving the new objectives. Currently, we have community support programs, such as halfway houses, sheltered work experiences, peer-managed support systems, and a number of other services. These are new programs, which did not exist a few years ago and for which resources are now being allocated, methods standardized, and policies developed.

The management steps are well established, regardless of the enterprise. Service planning consists of:

1. forecasting;
2. setting objectives;
3. developing strategies;
4. programming;
5. budgeting;
6. developing policies;
7. establishing procedures.

In the human services field, these steps are not as clear-cut as, say, designing a factory to manufacture tires. The mental health field is often researching, observing, and revising as it moves along. However, the steps can apply. The jobs of manpower developers would be easier if good service plans, including all the above steps, were available.

This raises another point. If a conscientious mental health manpower developer does not understand the service plan, it might not exist. In that case, a plan would have to be created. No one can do the next steps--organizing and staffing--without a service plan. This is reminiscent of the situation in Alice in Wonderland. "Would you tell me, please, which way I ought to go from here," said Alice. "That depends a good deal on where you want to get to," said the cat. "I don't much care where," said Alice. "Then it doesn't matter which way you go," said the cat. We cannot have a viable manpower development plan unless we have specified desired outcomes, a strategy, and a program. Once we have these things, we can organize and staff the program for delivering services.

Organizing

Given a service plan, the organizational structure needs to be designed. Organizational charts of two varieties should be developed: functional charts, which specify the major sub-units of complex programs; and personnel charts, which delineate relationships among staff and clients. Next comes writing descriptions of the duties and activities required of each position. The last step in organizing is the establishment of qualifications for the positions. These are often titled the "minimum training and experience" requirements.

Organizing can be done in many ways to accomplish the same end. For instance, a program could be organized using predominantly professionals or paraprofessionals; we could follow a medical model; or, our experience could bias us toward psychologists or social workers. The point is, there are many ways to organize, just like there are many ways to get from Atlanta to Birmingham.

Staffing

Staffing involves four fundamental management processes:

1. selecting staff;
2. orienting staff;
3. training staff;
4. developing staff.

Selecting staff involves choosing people who are best suited for the job. They may come from well articulated educational programs which produce skilled workers who are immediately productive. When a skilled labor pool does not exist, as in many rural areas, in-house orientation and training programs become necessary.

When service programs are adjusted or revised, there is often a need for extensive staff development efforts. Unfortunately, in many states where mental hospitals are undergoing dramatic shifts from a custodial care to an active treatment orientation, manpower development efforts have been largely inadequate. This is also true for new community support services.

Staffing is the process of choosing the right people for positions in the organization. The easiest way to staff is to go out and recruit good people. In most urban locations this is a routine personnel process; in rural locations it is often impossible. Rural institutions often must make do with the available manpower pool. People are hired and trained, on-the-job, to be aides, food service workers, and so forth. The jobs are not highly skilled. Professional staff are always in short supply--there are doctors who don't

speak English well; a few professionals who are content to commute from larger cities; and a few home town people who go away to college and come back.

Illustration of Directing, Controlling, and Revising

The following example is related to changing service delivery in four public mental hospitals in Florida with a patient population of over 5,000. The effort to change these programs began in 1975. It was prompted by several factors:

1. The Department of Administration began requiring "staffing standards," so they would know when hospitals had enough staff;
2. The hospitals were decentralized into semi-autonomous units;
3. Donaldson won his U. S. Supreme Court case establishing the "right to treatment"; and,
4. The National Institute of Mental Health funded a four-year grant to do paraprofessional training.

Donaldson was a patient at a state hospital who claimed he received no treatment during his years there. The state argued that, traditionally, state mental hospitals were created to provide asylums for disturbed people, and to get them out of their neighborhoods where they caused trouble for other people. However, the State of Florida lost the case and Donaldson's claim was settled, and in the process, a constitutional right to treatment for patients in public mental hospitals was established by the U. S. Supreme Court. This was in the [illegible]s.

In response to the policy considerations prompted by the Donaldson case, an analysis of "constraints" was conducted relative to the four Florida state hospitals. A dismal picture appeared. The geographic location of the

hospitals seemed to prevent attracting sufficient professional employees and, because of their traditional treatment perspective, many staff did not understand the importance of the Donaldson decision. Most of the "easy" cases had already been moved out of the hospitals, so the "hard" cases remained in custodial care. It was assumed that not much could be done with the patients who were left, even where there were favorable staff-to-patient ratios.

A task analysis revealed that professional staff spent most of their time processing papers and diagnosing patients. Little treatment was provided. Aides, by far the largest majority of the client contact staff, were largely involved in custodial care tasks--escorting patients, overseeing wards from the nurses' station, making repetitious nursing notes, and house cleaning.

An analysis of "program objectives" was then undertaken. Several general program areas were identified--geriatric, children, adult, adolescent, etc. There was little written evidence of established program objectives. Interviews of a cross section of program managers were used to help identify program objectives. When the data were compiled, some 20 program objectives were found in the 15 program areas then existing in hospital and community agencies. Only six of the objectives seemed to be essential for providing quality treatment. These were:

1. to develop psychosocial evaluations;
2. to provide health assessments;
3. to manage and monitor treatment episodes;

4. to devise treatment plans;

5. to provide psychosocial treatment according to treatment plans;

6. to provide linkage to services inside and outside the hospital.

A task analysis found that none of the 3,000 aides, who represented 98 percent of the direct contacts with patients, were doing the essential treatment-oriented work. Clearly, there were discrepancies between what existed and what was desired, leaving only two things to be done--make marginal organizational adjustments or make fundamental organizational changes. Obviously, fundamental changes were in order.

Having concluded that it would be impossible to bring in large numbers of trained professionals, the focus turned to the 3,000 aides. The aides lacked treatment-oriented skills and most of the staff had a custodial view of hospitalization. The strategy was to provide the aides with basic skills for carrying out treatment. This indicated a massive retraining effort.

What should be taught? Certainly not the tasks revealed in the task analysis. Instead, we used the program objectives as a guide to basic treatment skills needed. In addition to these skills, more information was added about normal human development, as that helps to understand abnormal behavior; written and oral communications skills were included as well. While the treatment skills were important, information designed to sensitize hospital staff to the plight of mental patients was also built into the curriculum.

There are only two options for delivering a training program--internal and external. An internal training program must have an infrastructure to support it: staff, space, authority, secretaries, plus staff motivation. The external training approach was chosen because the state had a well-developed community college system. The college administrators were supportive; training funds were made available; and college instructors were willing to teach on hospital grounds. Going to college and gaining college credits proved to be incentives for staff to attend the program.

When the pilot project was completed on June 30, 1979, over 600 of the 3,200 employees in the four hospitals had enrolled in the training program. Aides were graduating with one-year certificates and two-year degrees, and were being promoted into higher paying positions after graduation. The program is still growing in the number of aides entering training.[3]

CONCLUSIONS

By most standards the effort to retrain staff was successful. Appropriations for promotions are running in the millions. Currently, nearly one-third of the 3,000 hospital aides have been involved in retraining. Beyond the skills learned, the aides have acquired confidence from their training experience. They had never been told they could help patients. They had never been told how to help. They didn't have role models from which to learn. Now, to some degree, this is changing and, thus, the quality of patients' lives is improving.

In closing, I believe there is a lack of innovation in mental health manpower development. What is needed at the organizational level is a common programmatic philosophy, a sense of purpose, and motivation. It is the challenge of the mental health manpower development movement to use proven management principles, to inspire administrators and workers alike to develop "can do" attitudes, to develop a positive view toward innovation, and to work together to accomplish predetermined service outcomes. We will never work ourselves out of our jobs, but we can help improve the lives of millions of citizens who are affected by mental illness and emotional problems.

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CONSIDERATIONS IN STAFFING MENTAL HEALTH AGENCIES

Anne S. Goodman*

Staffing can be defined as the process through which the purpose, goals, and objectives of an agency are translated into a specific work system which outlines the functions and responsibilities of each staff member. Staffing patterns provide a framework for the selection and utilization of the agency's human resources, and can be characterized by the number and type of staff to be employed, by their use and organizational placement, and by the actual work to be done. The type of staff is usually determined by such factors as education, discipline, job description, or competence level. The use of staff refers to the functions, activities, or tasks to be performed. Staff organization refers to the structure and formal relationship of work force members. The work to be done is derived from the results to be achieved, which in turn are determined by the objectives and philosophies of the agency.

A staffing pattern must incorporate the skills and abilities required to meet the demands of the organization's current service plan. It must also have the capability to add or upgrade staff as new knowledge and techniques become available. Finally, the staffing pattern must be structured in a manner which avoids unnecessary duplication or inconsistencies in the approach used by the organization to accomplish its work.

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*Anne S. Goodman is employee relations director of the Virginia Department of Mental Health and Mental Retardation in Richmond. Paper adapted from a presentation at a workshop on Staffing Patterns and Manpower Development sponsored by the Mental Health Manpower Development project of the Southern Regional Education Board.

The primary focus of the mental health service system involves the provision of direct care, rehabilitation, and client support services, all of which are highly dependent upon the capability and organization of the human resources. During the past decade, there have been a number of changes in the orientation and services offered by mental health agencies. These changes have placed new demands upon staff at all levels. In recent years, support has been provided for manpower development programs which could assess issues related to manpower supply, distribution, utilization, and productivity and increase the agencies' capability to address problems within each of these areas.

Often staffing patterns "evolved" with limited attention to manpower trends or issues which are concurrently affecting the agency's activities. More often than not, staffing patterns developed in an incremental manner, with individual staffing decisions based on the professional, economic, or political issues important at the time. This resulted in staffing patterns which may no longer serve either the mandated responsibilities of the agency or the current expectations of its clients and community.

This paper examines the mental health staffing process from several perspectives. It touches on some of the major methodologies for developing staffing patterns and proposes an expansion in their scope to encompass a number of organizational and environmental concerns which directly or indirectly influence staffing needs. Finally, the paper suggests the role of the management process in implementing staffing patterns, and discusses means for assessing the adequacy and appropriateness of mental health staffing patterns in meeting agency goals and community needs.

STATEWIDE ISSUES

In the development of staffing patterns, it is important to understand that staffing is only one component of manpower development. Manpower development encompasses a range of activities associated with recruitment, employment, retention, credentialing, training, continuing education, regulation, management development, career advancement planning, evaluating, and financing. By including issues of manpower supply/production, distribution/utilization, and administration/regulation, an agency should be better prepared to plan strategies to improve the system's overall service capability.

Agencies need to be aware of the influences that external conditions, such as unions, employment policies, and court rulings, have upon manpower. Federal court orders have mandated specific staffing patterns and have required the performance of specific activities, such as individualized treatment planning, periodic client reassessments, and informed consent procedures. In many areas, increased pressures to unionize have created demands for additional staff or for the realignment of current staffing patterns. The requirements of the Equal Employment Opportunities Commission (EEOC) and other statewide personnel policies have affected the staffing of public programs.

One trend which directly affects mental health service staffing is the relative decrease in the number of psychiatrists. According to available data, while the number of new MDs has doubled since 1965, the percent entering psychiatry has increased by only one percent. This relative shortage of psychiatrists has hit the public services especially hard. The problem is compounded by the fact that in some state and community hospitals foreign

medical graduates (FMGs) constitute over half of the psychiatrists. Congressional legislation will severely restrict the further use of these foreign medical graduates.

The distribution of psychiatrists and other core professionals continues to be a problem for the mental health service system. Nationally, the distribution of psychiatrists has been weighted toward urban centers and the wealthier states. Currently, 82 percent of the psychiatrists in the U. S. practice in cities with populations over 100,000, while 68 percent of the counties in the U. S. have no psychiatrist. Additional staffing problems occur in the hiring and retention of specialists, such as occupational therapists, physical therapists, nurses, and psychologists, in the rural and impoverished areas of the country.

The current emphasis upon returning the chronically mentally ill to community programs has changed staffing requirements. The change from custodial care to therapeutic rehabilitation has sometimes resulted in staff reductions within state institutions and the need to retrain those staff who remain. Deinstitutionalization of the less severely ill patients has prompted need for institutions to plan their staffing requirements for an inpatient population which is at the lowest level of social functioning. This trend has also created additional staff responsibilities for those patients who are in transition from institutional care to community services.

Because personnel costs comprise a significant percentage of the total expenditures within the mental health service system, it is very likely that efforts at cost containment will affect both the number and composition of

mental health agency staff. The traditional medically based staffing model is comparatively expensive. As health care costs continue to climb, services provided by highly paid professionals will receive careful attention. Agency responses, such as realignment of the type and level of services provided by public agencies and the delegation of more responsibility to paraprofessionals, will change overall staffing patterns.

These examples represent a few of the systemwide issues which should be considered in the development of agency staffing patterns. There are other issues related to manpower which also need to be considered by agencies as part of the staffing process. These range from the impact of competition for staff from the private sector to the acceptance and use of new kinds of workers, such as physician extenders and nurse practitioners. Other problems include the limited number of minority professionals entering public service and the continued shortage of workers in specialty areas, such as child and geriatric psychiatry.

DEVELOPING A MENTAL HEALTH AGENCY STAFFING PATTERN

Staffing is a dynamic process which represents more than an organizational chart on a sheet of paper. Agencies should ascertain the influence on staffing of the organization's internal characteristics as well as those of the external environment. These characteristics include the functions performed by the agency, its use of teams, the organization of staff, and the agency's working conditions. They also include the agency's coordination procedures, the political climate within the agency, the levels of managerial and programmatic expertise, perceptions of the agency's mandated responsibilities, and perceptions of what constitutes cost effectiveness.

These characteristics have varying impacts upon staffing requirements. Agencies which are politically and economically stable may have fewer problems in attracting specialists on a full-time basis. The level and pervasiveness of management expertise within the agency directly influences the use of staff; good management can accomplish more with less. Similarily, an agency with high staff morale can stretch the services provided by a relatively small number of staff. When an agency specifies the results it needs to accomplish and establishs a quantitative means for measuring the accomplishment, it becomes less difficult to fit the people into the "right" jobs.

An agency's policy with respect to its service offerings also affects an agency's staffing pattern. An agency that stresses diversity of services requires a different staffing pattern than an agency that provides a few specialized services.

A variety of methods have been used to develop staffing patterns. They have been classified as the descriptive, industrial engineering, management engineering, and operations research approaches.[1] (These are discussed in more detail in a later section.) Each of these methodologies can contribute to some degree to the development of staffing patterns, but each methodology is far from sufficient in addressing all staffing concerns. The development of staffing patterns requires a balanced combination of these methods which also takes into account the specific staffing problems of individual agencies. The selection of appropriate combinations of methods will be influenced by the availability of data and technical expertise.

A major limitation of all of these methodologies is their relatively narrow approach to staffing concerns. None is able to provide a complete analysis of manpower development or staffing needs. None considers the range of internal organizational characteristics, environmental factors, and systemwide conditions which influence staffing requirements. A more comprehensive application of these methodological approaches will require a systematic identification of the organizational characteristics, service needs, and service setting factors which affect the mental health agency.

The nature of these characteristics is illustrated in Figure 1. In this diagram, each row represents a dimension of the environment within which the agency operates. Each column represents some interrelated factors which influence staffing patterns. Within these dimensions are the following specific items of concern:

Organizational Direction:

Mandates - Activities legally required to be performed by the agency.

Philosophy - The agency's orientation and philosophy of intervention.

Goals/Objectives - Quantifiable statements of what the agency intends to accomplish.

Responsiveness - The agency's response to new knowledge, techniques, and service needs.

Employee requirements - Constraints and conditions placed upon the activities and performance of personnel.

Diversity of services offered - Number and intensity of services provided by the agency (e.g., agency decision to provide a wide array of services or concentrate on a few).

Figure 1

Factors Directly Related to the Development of Staffing Patterns

ORGANIZATIONAL CHARACTERISTICS	FACTORS				
Direction of Organization	Agency Mandates and Legal Requirements	Agency Service Goals and Objectives	Intervention Philosophy and Policies	New Trends and Technologies	Employee Procedures and Regulations
Organization's Service Needs	Client Characteristics	Types of Services Offered	Number of Clients Served and/or to be Served	Diversity of Services Offered	Level of Skills Required
Service Setting	Catchment Area Characteristics	Facility Type--In-patient or Out-patient	Geographic Location and Proximity of Other Resources	Support Capability (Management Expertise)	Architecture and Working Conditions

Service Needs:

Client characteristics - Age, sex, insurance coverage, income, levels of functioning, presenting problems, diagnosis, legal status, education, and special service needs (e.g., non-English speaking clients).

Type of services - Services offered by the agency (e.g., prevention, education, inpatient, outpatient, counseling).

Service intensity - Level of skills and expertise required and time involved in the delivery of services provided by the agency.

Number of clients served - Estimated client population to be served by the agency.

Agency Service Setting:

Geographic location - Proximity to other resources; size and characteristics of the community in which the agency is located.

Architecture - Physical structure of the facility.

Support capability - Agency administrative/management expertise.

Facility type - Facility characteristics required for the provision of services, based upon programmatic concerns (e.g., whether services are provided in a single facility or in several satellite centers).

With the collection of appropriate data which reflect these factors, the four major staffing approaches might be modified to provide a broader frame of reference for the development of staffing patterns. Efforts should be pursued to assess these variables on an ongoing basis because the collection of reliable, standarized data is a prerequisite to their incorporation in staffing methodologies. However, even if these variables cannot be quantified, they need to be considered in developing staffing patterns.

ISSUES IN IMPLEMENTING STAFFING PATTERNS

Historically, agencies have relied on "traditionally" accepted staffing criteria. More often than not these criteria were imposed by personnel systems, accreditation organizations, or professional licensing boards. The criteria used were frequently developed for programs and circumstances different than the current situation. This approach to staffing has contributed to the agencies' inability to develop their own staffing processes which would more effectively balance service expectations with administrative requirements.

However, external trends and issues do affect the specific environment within which an agency implements its staffing patterns. Among the critical external factors are:

Availability of skilled personnel: This includes job classification requirements, minimum employee qualifications, the degree of competition with the private sector and other public agencies, job desirability, and the effectiveness of strategies for staff retention (e.g., seniority incentives).

Opportunities for enhancement of skills: This includes the identification of specific job-related characteristics required in the agency's program; assessment of the need for the development of specific skills; inservice training programs; and the establishment of manpower placement and retention programs.

Availability of adequate resources: This includes the ability of the program to receive third party reimbursements; capability to collect client fees; competition with other programs requiring public support; and the "mind set" of legislators and other policymakers regarding the value of the agency.

Supply/production of manpower: This includes factors such as accessibility to pre- and in-service training programs; internships and practicums; continuing education requirements of accrediting agencies; programs of career advancement and management development.

Distribution/utilization of manpower: This includes the feasibility of substituting personnel with similar skills; the development of career ladders; the evaluation of staff productivity; the appropriateness of existing job and personnel classifications.

Administration/regulation of manpower: This includes the requirements relative to licensure or certification; procedures for certifying or licensing staff; judicial and executive rulings related to staffing and program procedures; legislative mandates such as EEOC programs; and procedures required by third party payers.

While several of these factors will not lead to the design of an "ideal" staffing pattern, they will influence the practical implementation of any staffing pattern.

To the extent possible, these issues need to be handled as a coordinated and systematic management process. Given the changing nature of these organizational and environmental factors, it is important that this process provide for ongoing problem analysis and flexible management. Figure 2 (adapted from an article in the Harvard Business Review by R. Alec MacKenzie, and reprinted with permission) shows one view of the management process which provides a framework within which to integrate staffing concerns and management activities.

The author states that the process of management can be separated into three major elements: ideas, which are conceptual in nature and relate to planning and policymaking; things, which are administrative in nature and relate to organizing and structuring activities; and people, which involves the directing and controlling of agency efforts. Management is defined as the achievement of objectives through others, while administration is the management of the details of agency affairs. The management process encompasses five sequential and cyclical functions:

Planning - determining purpose, objectives, and a course of action;

Organizing - determining the manner in which work is to be done;

Staffing - selecting qualified people to do the work;

Directing - bringing about purposeful action to meet desired objectives;

Control - comparing results with the plan and making corrections if necessary.

Figure 2 illustrates the relationship between the various elements, tasks, functions, and activities which comprise a management process. For the staffing process, the key activities are forecasting the agency's course, establishing objectives which identify desired results, budgeting, establishing an organizational structure, selecting and orienting staff, delegating responsibility, motivating staff, and developing performance standards. The point is that a staffing pattern is not static; it is really a process that calls for the functions of planning, organizing, staffing, directing, and controlling in a continuous fashion.

REVIEWING THE APPROPRIATENESS OF STAFFING PATTERNS

Until recently, the primary orientation of agencies was one of expansion. The natural evolution of organizations was based on continued physical and economic growth. It was also expected that organizations would become increasingly complex and technically sophisticated and would require more highly skilled and expensive staff. Questions related to "how much is too much" were not often considered in agency planning and policymaking. This is no longer the case.

The recognition that resources to support expansion are not available has created pressure to re-evaluate levels of service and staffing. This requires a review of existing staffing patterns. Some of the steps in the review process are:

1. Determine which activities are related to mandated responsibilities and legal requirements and which are related to desired activities based upon client, community, or staff expectations;

Figure 2

Management Process

Elements	Management Roles	Continuous Functions	Sequential Functions	Activities	
Ideas	Conceptual Thinking	Analyze Problems	Plan	• Forecast • Set Objectives • Develop Strategies • Program	• Budget • Set Procedures • Develop Policies
Things	Administration	Make Decisions	Organize	• Establish Organization Structure • Delineate Relationships	• Create Position Descriptions • Establish Qualifications
People	Leadership	Communicate	Staff	• Select • Orient	• Train • Develop
			Direct	• Delegate • Motivate • Coordinate	• Manage Differences • Manage Change
			Control	• Report System • Performance Standards • Monitor	• Corrective Action • Reward

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2. Assign a priority value to key activities which are not mandated or legally required but conform to agency philosophy;

3. Identify staff resources (e.g., number and time of personnel involved) devoted to mandated activities and the resources devoted to other priority activities;

4. Analyze staff achievement levels and the types of activities performed;

5. Analyze the relationship between the skills needed for the mandated and priority activities and the skills of personnel performing these activities;

6. Identify areas where staff are under- or over-utilized and staffing reallocations may be possible;

7. Determine the feasibility of replacing or adding new job classifications to perform the mandated and priority activities;

8. Establish and monitor standards and productivity measures according to the level of skills required, the ability of staff to accomplish their activities, and the degree to which staff time is devoted to lower priority activities.

The determination of what constitutes priority activities involves some subjective judgment on the part of agency managers and policymakers; however, there are methodological approaches, such as Delphi techniques, which can assist in these determinations. These priority assignments should be consistent with the agency's philosophy, its service orientation, and other agreements regarding services. Staff for each of the activities (listed in priority order) can be planned for "maximum" and "average" and "minimum" acceptable levels based on judged effectiveness. The range of costs required for each level of staffing can then be determined.

Once this has been done, the agency can determine the level of activities it can support with its staffing resources. If the agency's philosophy is to provide a few, high quality services, it might find that its staffing capability provides for the accomplishment of only its top five priority activities.

If the agency has to perform the first 10 activities, they may have to choose the minimally acceptable level of staffing to stay within their resources. Through this type of assessment, agencies can better examine the relative advantages and disadvantages of employing different staffing patterns. They can look at the impact of relying upon relatively few highly expensive professionals or developing alternative combinations of less expensive and somewhat less qualified personnel. Finally, this assessment which matches activities to resources provides a baseline for dealing with increasingly limited resources for staff because various levels of agency activity can be tied to specific and cumulative costs.

SUMMARY

The proper staffing of an agency is one of the major functions of management. While there are several methodological approaches to developing staffing patterns, they currently do not include some major agency characteristics that directly affect staffing (e.g., philosophies, management expertise) or the environmental context in which the program operates (e.g., constraints set by courts, union demands, licensure requirements). Staffing is a dynamic process that requires constant review and revision as various systemwide and agency-specific variables change. While we may not be able to "plug in" some of these variables into staffing methodologies, we can be more systematic in our consideration of them and design staffing patterns to fit individual agency needs.

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IMPLEMENTING STAFFING STANDARDS: FLORIDA'S EXPERIENCE

Robert C. Ashburn*

INTRODUCTION

During the reorganization of the Department of Health and Rehabilitative Services in Florida, it was recognized that the state's traditional mental health system could not adequately meet the needs of the resident psychiatric population. The need to develop a different treatment and rehabilitation system for the state mental health hospitals was acute. The Mental Health Program Office developed staffing standards in an effort to improve treatment and rehabilitation services in state mental health facilities. These standards were ultimately approved by the Secretary of the Department of Health and Rehabilitative Services.

These staffing standards consist of three components: (1) unitized treatment teams in order to decentralize the large state hospital system; (2) a multidisciplinary therapeutic treatment and rehabilitation team in order to allow a number of mental health disciplines to contribute to the treatment and rehabilitation process; and (3) prescribed staff-to-patient ratios relative to various treatment disciplines in order to assure appropriate numbers of specific staff. The standards were built around a concept of the

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Unit Treatment and Rehabilitation (UTR) team. The UTR concept incorporates the philosophy that a number of mental health professionals and paraprofessionals can make equally valuable contributions to the treatment and rehabilitation process. Staffing standards were developed for five types of service units: children, adolescent, forensic, adult/geographic, and geriatric. A model organizational structure was developed for each of these direct service areas.

Although the staffing standards and UTR concept are relatively simple to understand, implementing change in a large system is usually difficult, and the Florida hospital system is no exception. The purpose of this report is to (1) outline the process of developing these staffing standards; (2) identify and analyze the obstacles that existed in the development and implementation; and (3) recommend courses of action that may facilitate the development and implementation of staffing standards in the future.

HISTORICAL OVERVIEW

Staffing Standards Developed

Prior to 1974, efforts to obtain legislative approval for additional staff in the state mental health hospitals had been relatively unsuccessful. The primary reason given was the absence of clear and justifiable staffing standards. To remedy this, the Mental Health Program Office appointed a panel representing a variety of disciplines interested in staffing to consider the objectives of Florida's mental health system and to create the staffing standards which they felt would be necessary to accomplish those objectives.

The derivation of staffing standards for state mental health facilities was accomplished in a manner similar to that of the Wyatt vs. Stickney standards, i.e., they were developed by expert judgment. However, the Florida task force had many advantages over the Wyatt panel, the most important being the advantage of hindsight. Experience with the use of the Wyatt standards demonstrated that organizational structure and treatment philosophy were essential for the development of standards. Consequently, the panel, whose members included psychiatrists, nurses, social workers, psychologists, and other professionals, first developed tables of organizations and treatment philosophies which were consistent with Florida statutes, the need for medicare/medicaid certification, the requirements of the Joint Commission on Accreditation of Hospitals, and the minimum requirements of the American Psychiatric Association for a psychiatric hospital. Thus, all of the factors noted in developing preliminary standards for state mental health facilities were considered.

After the task force developed a draft of the staffing standards, meetings to review the proposed standards were conducted with representatives from the Florida Psychological Association, Florida Psychiatric Association, Florida Nurses' Association, the Florida Chapter of the National Association of Social Workers, and other interested citizens and professionals. The position descriptions, organizational charts, and activities for implementing the Unit Treatment and Rehabilitation staffing concept were submitted to the Joint Commission on Accreditation of Hospitals for review. The materials were judged "acceptable," both organizationally and administratively.

Next, a plan was designed for implementing the staffing standards. The plan identified the action steps required to reorganize the current staffing structure, to establish appropriate new positions, and to provide the necessary training for existing staff. The legislature responded positively to the proposed standards and their justification. From 1974 through 1980, the legislature has appropriated an additional $20 million to establish over 1,300 UTR positions and to provide for staff training.

The legislature also mandated the implementation of the UTR concept in all state mental health facilities. The four state mental health hospitals have since developed reorganization plans to implement the different treatment approach. The hospitals are currently in varying stages of implementation. It is anticipated that full implementation will take approximately five years.

A major problem in implementing the staffing standards has been a lack of qualified staff to fill the new paraprofessional positions included in the UTR concept. In June of 1975, the Paraprofessional Manpower and Development Branch, National Institute of Mental Health, awarded the University of South Florida funds to initiate a project entitled Career Education for Mental Health Workers. The primary function of this project was to develop (1) a job-relevant curriculum for training paraprofessionals in mental health; and (2) to install the curriculum in four community colleges serving the geographic areas in which the four hospitals were located. The curriculum is now available through the four community colleges and it addresses the skill needs of staff in meeting the new job requirements of the UTR staffing standards. The community colleges will grant credit toward a degree for those involved in the training. However, as it is

a lengthy process, only a small proportion of the hospital staff have become involved in the degree-granting program. Therefore, comprehensive in-service training programs have been developed to help meet the more immediate training needs of the hospitals and staff.

Components of In-service Training Program

The UTR Community College Training Program is a 180-hour competency-based training module designed to meet the immediate needs of the state mental health hospitals by training selected staff. The staff acquire specific job skills in 23 identified areas which enable them to function effectively as a unit treatment and rehabilitation team member. In addition, this program will qualify existing personnel for promotion into selected UTR classifications.

The Medication Administration Training course was developed for UTR staff who are required to administer pre-packaged medication. These staff learn about the effects and side effects of medication, how to communicate the importance of the medication to the clients and the family, how to observe the clients' reaction to the medication, how to develop a productive relationship with the clients, how to maintain records and security over medications, and how to administer pre-packaged drugs.

The Crisis Intervention and Control program is a 16-hour course to teach direct care staff how to humanely control aggressive patient behavior in a consistent manner.

The UTR Orientation course is a competency-based program which provides an overview of the UTR organizational structure, presents the roles and functions of the new UTR positions, shows how to develop a multidisciplinary treatment team, and outlines the treatment implications for psychosocial treatment methods. The 14-hour training package includes video cassette training aids, an instructor's manual, and post assessment materials.

The Units of Excellence Training program is designed for hospital unit supervisors, managers, and the training staff of the mental health facilities. Developed by the Florida Mental Health Institute, the program includes all the psychosocial treatment methods and the multidisciplinary team approach applicable under the UTR structure. This program requires 80 hours of residence at the Florida Mental Health Institute and is a combination of competency-based classroom instruction and supervised experience in a multidisciplinary treatment team. Upon completion of the training, the participants can act as faculty for staff training in their own state mental health facility.

The UTR Supervisory Training module is a 60-hour course designed to insure proper utilization of the newly trained mental health paraprofessionals. This is achieved by providing supervisors with (1) knowledge and understanding of the skills that the UTR Specialists and UTR Shift Supervisors have developed through their training, (2) training in the supervision and management styles that are appropriate to the UTR structure, and (3) the opportunity to develop a positive attitude toward the UTR style of treatment delivery.

DISCUSSION

Empirical studies of the standards have not been conducted to date. However, preliminary pilot evaluations suggest that implementation of the staffing standards has had significant impact on the state mental health facility system. In one pilot study, the new staffing standards were compared to the traditional staffing system by assessing staff attitudes and job satisfaction as well as patient satisfaction and attitudes about their treatment. The results indicated that staff in facilities utilizing the new staffing patterns were more satisfied with their work, had better attitudes toward their fellow workers, used the team approach more, and had better opinions about the effectiveness of treatment than staff in a traditional unit. Patients had more positive opinions about their treatment, had better attitudes towards the staff, and were more satisfied with the facility and the services. Patients in those facilities were also judged to be more reality-oriented than patients in facilities with the traditional staffing system.

Judgment suggests that the staffing standards should have a positive effect on recidivism, length of stay, and cost effectiveness. Nothing in the pilot research indicates that the staffing standards are having a negative effect but the positive effects on the factors noted await further testing.

The major problems experienced in implementing the staffing standards were as follows:

(1) resistance to changing the traditional system;

(2) lack of understanding of the staffing standards, particularly

a) the increased flexibility of the standards versus the traditional system,

b) the roles and functions of the paraprofessional staff,

c) the advantages of the multidisciplinary team approach;

(3) resistance of the medical staff to relinquish professional authority in patient treatment and rehabilitation;

(4) resistance of nursing services to relinquish line authority over most of the treatment staff;

(5) lack of an orientation program to inform staff of the intent of the new staffing standards;

(6) lack of trained paraprofessional staff to meet requirements of the new positions; and

(7) the lack of consistency in implementing the standards systemwide.

RECOMMENDATIONS

It is recommended that the following steps be incorporated in any strategy to develop staffing standards.

Step 1. Establish a committee that can serve as a decision-making body and which directs all activities related to development and implementation. The Committee should have representation and expertise in the following areas:

a) administration (clinical and non-clinical systems);

b) mental health programs (treatment approaches and service delivery systems);

c) personnel (personnel regulations, job descriptions, and position classification);

d) budget (operational budgets and budget requests);

e) unions (labor and professional organizations);

f) political systems (legislative mandates and political climate);

g) legal, legislative, and administrative regulations.

Step 2. Determine the services that are required to comply with the mission of the mental health agency by reviewing the agency's statement of goals and objectives, legal statutes, and the administrative regulations that govern the agency.

Step 3. Identify those required activities that can be accomplished with existing resources and those required activities that will need additional resources.

Step 4. Review existing programs and resources to determine which programs are acceptable and should be maintained.

Step 5. Review the state of the art related to staffing standards by reviewing the literature and visiting selected model programs.

Step 6. Develop preliminary staffing standards for review by the consumers.

Step 7. Determine the training needs for implementation.

Step 8. Develop cost estimates for implementation.

Step 9. Develop a plan for implementation that includes:

a) strategy for the committee's involvement in implementation;

b) strategy for orientation of internal and external persons to the staffing standards;

c) strategy for legislative support for implementation;

d) realistic funding approach to full implementation;

e) strategy for staff training;

f) strategy for making concrete the change agent effects of staffing standards;

g) strategy for evaluation and modification of the staffing standards.

SUMMARY

The State of Florida is implementing staffing standards that were developed in conjunction with a philosophy of treatment and rehabilitation referred to as the UTR concept. Successful implementation of the staffing standards usually depends on developing a strategy for change that includes as a minimum the following:

1) The development of staffing standards that support an agreed-upon philosophy of treatment and rehabilitation.

2) An implementation plan that considers existing institutional traditions, availability of personnel, equipment and facility resources, and the availability of training.

3) A method of evaluating and modifying the staffing standards.

Since individual differences exist in most mental health treatment programs, staffing standards should be used as a "minimum" and not as an "ideal." Flexibility will facilitate implementation and reduce the resistance to change in an existing system. Even under ideal conditions, however, implementing staffing standards is a difficult task. Adequate staffing standards incorporate a philosophy of management and treatment as well as staff-to-patient ratios. Staff-to-patient ratios should be specific to patient types and staff types.

MANPOWER NEEDS ASSESSMENT METHODS

Paul M. McCullough*

The purpose of this chapter is to provide an overview of methodologies related to the assessment of the need for manpower. This overview does not cover all the relevant methods or literature. The overview does attempt, however, to organize the major need assessment methods in relation to the general types of questions that arise about manpower.

The need for manpower should be related to the need for certain services, which in turn are related to results to be accomplished. Tasks and activities are the component parts of the services to be delivered. The linkage between manpower, activities, and services depends in large measure on the philosophies and judgments of those in management positions. Also, relationships between the assessed need for manpower and specific staffing patterns cannot be mathematically determined because of the many ways of combining and using mental health workers to accomplish similar ends. Thus, no one assessment method will answer all questions; often, the constraints of time and resources will dictate which approach is selected.

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FORECASTING

Management may attempt to predict what mental health services will be needed in 20 years based on assumptions about social trends, new technologies of treatment and prevention, and population growth. Management must attempt to forecast what mental health services will be required if major policy changes occur (e.g., if one or more state hospitals are closed).

As used here a forecast is different from a need assessment. Need assessments are focused on the discrepancy between resources or services available now compared to those which are judged to be needed. A forecast is a prediction of what may happen regardless of current need. However, some of the techniques for forecasting are of use in manpower need assessment.

A recent report reviewed forecasting techniques and their use in manpower development.[1] The author identified four general techniques potentially useful to state manpower development. They are:

1. Trend Extrapolation. These methods are all based on the use of historical time-series data to predict what the situation will be at some point in the future. For example, the census of the state mental hospitals will be zero by 1990 if the current discharge rate continues.

2. Expert Opinion. This is simply the use of experts to predict the shape of future events.

3. Policy Capture. This method attempts to identify the relative importance of achieving different objectives to decision makers. For example, an agency may want to increase revenues and provide services to the chronically mentally ill. At issue is whether both objectives can be realized. Identifying objectives that are shared by decision makers helps in developing plans that simultaneously address each.

4. Cross Impact Analysis. This is a sophisticated set of techniques for examining interactions among multiple factors and their possible effects on each other in the future. The method requires the use of experts with opinions about the interaction of potential events.

An example of policy capture techniques in the mental health field can be found in a National Institute of Mental Health (NIMH) task force report, in which mental health program directors identified eight current and typical mental health policy issues and the types of information needed to deal with each.[2] Information that was judged important for all policy issues defined sets of items for use in dealing with policy questions. Some of the information items are numerical data; some are subjective judgments (e.g., political feasibility). In either case, the technique offers a beginning set of information for manpower planning.

NEED ASSESSMENT

Many need assessment techniques can be adapted to manpower although they were originally developed for use in other areas. Reviews of need assessment techniques can be found in several publications and will not be covered in detail here.[3,4,5,6] Different manpower issues emerge at different stages of developing programs and delivering services. Manpower need assessment techniques can be organized into four major areas which represent different types of manpower issues. These are: (1) services required; (2) manpower requirements; (3) work force planning; and (4) staffing needs planning.

Services Required

Manpower needs are determined by the services to be delivered. The services to be delivered are determined by needs of the population or by the mandates of some authority. The services to be delivered should be selected to produce a result relevant to the needs identified. The first major area in assessing manpower needs is, therefore, the assessment of services needs, which can be accomplished through the following:

Service Need Assessment

1. Community-based information from:
   - Household surveys;
   - Key informant surveys;
   - Community forums;
   - Incidence or prevalence rates.
2. Social indicators from:
   - Analysis of social area characteristics;[7]
   - Mental health demographic profiles;[8]
3. Service utilization rates from:
   - Current program experience;
   - Rates from other (similar) geographic areas;
   - Rates from other (similar) population groups.
4. Standards from:
   - Accrediting organizations;
   - Services-to-population ratios;
   - Providers-to-population ratios.
5. Services/Resources matching from:
   - Resource inventories;
   - Service demand data;
   - Current average use of resources.

The steps outlined above include assessments of the need for both services and resources. Existing resources may be counted in terms of the number and types of providers available or of the types of services available.

In either case, guidelines are needed to determine if existing services or resources are adequate.

Guidelines for Services Needed

- Availability, accessibility, and acceptability of services.
- Demands for service.
- Proportion of high-risk populations under care.
- Quality of services.
- Cost of service.

Guidelines for Resources Needed

- Types of staff available.
- Types of service programs available.
- Types of service settings available.

In order to collect adequate baseline data, the manpower planner should have:

- Defined units of service;
- Uniform staff information;
- Indicators of program and staff performance.

Most mental health agencies have reasonably accurate information on the following: population to be served, number of clients seen, amount of service delivered, number of staff employed, and costs of operation. These five pieces of information can be used to develop specific system rates which relate the various components of the service system to manpower.[9,10] For example, the following formula for costs can be established:

$$\text{Cost} = \text{Population} \times \frac{\text{Clients}}{\text{Population}} \times \frac{\text{Staff}}{\text{Clients}} \times \frac{\text{Services}}{\text{Staff}} \times \frac{\text{Cost}}{\text{Service}}$$

Such system rates provide a linkage among clients, services, and staff in a way that makes better use of baseline information than viewing them separately. Ten system rates can be developed from the five (population, clients, staff, services, cost) pieces of information. These indicators offer a description of the program's operation at any point in time and, when collected at several points in time, a comparison of how the various components may have changed. Manpower (staff) can now be related to the other elements of the service system rather than being viewed in isolation.

If it is known that the number of clients will increase due to an increase in the population or due to the addition of a new client group, the need for additional manpower can be estimated from the average amount of services produced per staff member. Or, if the total number of staff remains constant, how many more services per staff must be produced to meet the service demand. These system rates also provide a means of identifying and allocating costs to the various components.

It should be noted that these indicators are the result of current and past patterns of services. They do not indicate whether these services are effective or should be continued in the future.

Manpower Requirements

The second major assessment concern is the manpower required after the desired services have been identified. To some extent, approaches to

assessing the need for services overlap those of assessing the manpower required. In some cases the need for manpower is evident simply from the absence of certain critical types of workers (e.g., psychiatrists in rural areas), or by the absence of a necessary service (e.g., inpatient hospitalization). In this section, it is assumed that at least the target population for which services are desired has been identified. The specific services for the target population may or may not have been identified. These approaches are used most often by health planning agencies but are equally relevant to mental health.[11,12,13,14]

Health needs. When the specific services to be delivered have not yet been established, estimates of needed manpower start with an assessment of the health needs of the target population. Health needs are usually estimated by relating specific disorders to demographic information, to morbidity data, to current rates of service utilization, or to surveys of the incidence or prevalence of mental health conditions in the community. In many instances, health needs are established by expert judgment because the necessary information on prevalence or morbidity is not available.

After establishing a health need, a mode of care or type of treatment is selected and the amount of service to be delivered is determined. Manpower requirements are then based on the amount of care required to keep the population in "good" health status. For example, it may be judged that a crisis intervention program is needed because of the incidence of suicides and attempted suicides. The amount of crisis service necessary may be estimated from the current utilization of services by persons who have

attempted suicide, from other crisis services, or by expert opinion. The intervention program may be designed to be a fixed unit in a local hospital or a mobile unit which travels to the client's residence. A standard of service should also be established, e.g., crisis intervention should be available to the population at risk within two hours on a 24-hour basis. Depending on the type of care selected and the standard of care established, decisions about the manpower required can be made.

Several points should be noted in this regard:

- It is easy to overestimate the health needs of the population based on expert judgment. There are likely to be more needs than the population demands or is willing to pay to have met.
- Demographic variables (socio-economic data) estimate health needs on the basis of non-clinical client characteristics rather than on actual clinical experience. This may result in high estimates of need.
- Service needs based on client characteristics assume that current utilization rates are representative of the population, which may not be the case.
- There is not a clear relationship between health care services and the overall health status of the population.

Service targets. If the amount and type of service to be delivered has been established, the next task is to specify the staff required. The manpower planner then must develop information on the type of work to be done, the types of staff able to do the work, and the productivity of the various types of workers. This information can be developed by work sampling procedures or task analysis studies of existing service programs.

In a simplified fashion, the manpower required is then:

$$\text{Manpower Required} = \text{Population at risk} \times \text{Services planned per population} \div \text{Productivity of services by type of staff}$$

In the process one can, and should, consider an alternative organization of staff and use of alternative types of staff. This is particularly important in mental health programs where many service activities can be carried out by different types of staff.

Several points should be noted in this regard:

- Task analysis and work sampling tend to focus on "what is" being done rather than "what should" be done.
- Definitions of units of service are not uniform from setting to setting, which limits the ability to generalize utilization rates from one location to another.
- Services desired per population are frequently estimated on the basis of current utilization per population, which may change with the economy or public attitudes.
- Productivity by type of staff is frequently estimated on the basis of current utilization per provider, which is subject to changing technologies or administrative policies.

When the services desired and productivity are estimated as above, the estimate of manpower required is:

$$\text{Manpower Required} = \text{Population at risk} \times \text{Current utilization per population} \div \text{Current utilization per provider}$$

This manpower estimate reduces to:

$$\text{Manpower Required} = \text{Population at risk} \times \frac{\text{Providers}}{\text{Population}}$$

Manpower requirements are then based on the existing ratio of providers to population which does not take into account service innovations, technology changes, substitutability of staff, and/or management changes which affect the availability or productivity of providers.

Demand. A third approach to estimating manpower requirements is based on the demand for manpower. In this case, manpower requirements are based on the types and number of staff that providers of service or consumers are willing to pay for. The demand for manpower varies in specificity as the focus of concern moves from a particular local agency to the state level.

The demand for manpower can be estimated by the number of existing job positions (both filled and unfilled), surveys of employers regarding their realistic manpower "wants," and analyses of funds available for types of services. Such manpower estimates are heavily dependent on the ways in which workers are currently used. Also, studies suggest that the use of services is frequently more closely related to the supply of services than to the consumer demand for services. There are a number of factors which affect the use of services by consumers, e.g., preferences, accessibility, availability, third-party reimbursement policies and regulations.

The actual utilization of services is conditioned by such factors as the consumer's perception of his health status, the acceptability of services, the cost of services, and the availability of services. The consumer may elect not to seek care, thereby creating an unmet need. The provider may elect to provide only certain services, thereby creating unmet demands.

Current utilization rates are a result of all these factors. Manpower needs, when based on service utilization rates, are also a result of these factors.

Several points should be noted:

- Employers tend to overestimate their "wants";
- Specific vacancies may be filled by staff shifting from one service to another, thereby creating new vacancies;
- Demand models often assume a straight line continuation of past trends.

Manpower ratios. A fourth approach to estimating manpower requirements is the use of manpower-to-population ratios. Such ratios may be in the form of "one psychiatrist per 10,000 population" or "one nurse per ten adult psychiatric inpatients." Manpower ratios are essentially shortcut substitutes for much of the information that would be gathered and analyzed by the other methods. The more specific the ratio, the more accurate it is for estimating manpower requirements. However, specific manpower ratios are difficult to transfer from one location to another because of unique factors in each location. At the program level, staff-to-client ratios are more useful than manpower-to-population ratios; the former relate specific types of staff to specific services. Staff-to-client ratios are affected by the service setting (inpatient vs outpatient), the way staff are utilized, whether registered nurses must give medications, and the level of service provided (optimal or minimal levels of care).

Managers must take care in accepting any ratio without assessing the context in which it was developed. Ratios are the most easily used of the

methods discussed in this section and require the least technological expertise. They are useful in setting the broad limits of manpower requirements if the specific conditions for their development are understood.

Several points should be noted:

- Manpower ratios usually estimate each type of worker or discipline separately, thereby ignoring substitutability;
- Manpower ratios usually ignore resource constraints;
- Manpower ratios are usually based on professional judgments rather than on empirical studies.

Work Force Planning

A third major aspect of estimating manpower needs involves developing staffing patterns for a program. It is assumed that the target population, the types and amounts of service to be delivered have been identified. As noted previously, a staffing pattern is composed of four major dimensions: (1) the organization, (2) the utilization, (3) the type, and (4) the number of staff. The methods discussed provide data about work load, productivity, or allocation of staff rather than prescribing a specific staffing pattern. The actual staffing pattern is the result of how this information is analyzed and organized to meet program requirements.

Descriptive method. This method relies on descriptions of previous experience and current practices. An agency may plan a new program simply by adopting or adapting the staffing plan of similar programs. In the circumstance in which the agency does not have experience with a "new" program, the manpower planner may seek a "model" program whose staffing pattern can be copied. The approach may result in the translation of staffing patterns from

similar programs which fit the specific case with adjustments based on the opinions of experts. The decisions in the Wyatt vs Stickney court, and those of other courts, have produced a variety of descriptive staffing patterns for mental health and mental retardation facilities.

A more sophisticated use of the descriptive approach can be found in the staffing patterns currently being implemented in Florida.[15] The Florida staffing patterns consist of three major components: the organization of (1) a treatment unit, (2) a multi-disciplinary treatment team, and (3) staff-to-patient ratios with respect to different types of workers. The desired services, organization, and utilization of staff are established first and then a staffing pattern is designed to meet those requirements. In this context, it is clear "why" and "how" the staffing pattern was created.

Industrial engineering methods. As the name indicates, these methods are adapted from industrial work. These methods generally involve describing and identifying the work, the demands on particular types of workers and on the staff as a whole. The techniques involve work sampling, time and motion studies, describing the distribution of work, analyzing work flow, and assessing work load. Staff activities are described primarily by the time taken to do them. The results can lead to a redistribution of work or the reallocation of staff to meet the work demands. These techniques work best when they are focused on the current utilization of staff and when the work is routine and standardized.

These techniques are frequently used in developing staffing patterns for general hospitals. Patients are classified by the amount and type of nursing

care required. The levels of care are developed by expert judgment based on key medical and physical care considerations. For example, a ward which admits 10 patients of Category 1 level of care, which calls for two hours of skilled nursing care for each patient per day, will require 20 hours of nursing care per day. If several levels of nursing care are needed, the type of staff required to provide the care is adjusted according to predetermined standards. The number of patients per category of care determines the nursing staff required for any single ward or service. The total staff is the aggregate of the time required by the numbers of patients in each category.

A similar procedure was used in a study of psychiatric outpatient services where the patient care categories were not predetermined.[16] The major components of the study were:

1. Description of the movement of clients by direct observation. This produced the frequency and duration of patient contacts.

2. Description of staff time spent in specific activities through a one-week work sample. This identified the amount of service activities and distribution of time for all types of staff.

The combination of these two categories of information allowed for calculation of staff time per patient visit (both direct and indirect work demands by type of patient), and the proportion of direct contact time required in relation to total available work time. The staffing requirements for a given volume of clients could then be estimated within the limits of the organization's procedures.

In contrast to descriptive methods, which are often based on traditional professional practices, these methods base staffing patterns on client needs. Perhaps the most comprehensive system of this type in the mental health field is SCOPE (Staffing the Care of Patients Effectively). The system was originally developed to provide minimum nursing standards for state mental institutions. The general procedure is as follows:

1. Time studies are conducted of the work done on "exemplary" service units to produce time standards for the task required on these units.

2. Clients are surveyed regarding their daily living, physical care, treatment, and management needs.

3. Standards of care are established for each client group, e.g., each client should receive one hour of recreation per day.

4. The types of staff to be used to provide various services are determined by expert opinion and/or legal requirements.

The staffing pattern is then determined by merging the number of clients, the minimum care required, the time standards for each activity, and type of staff. In practice, the staffing pattern is generated by computer, based on the types of clients housed in each service unit. Different types of care are required for different types of service units (e.g., children, adult, forensic), which necessitates a large array of time and work standards. A periodic re-survey of patient needs and revision of standards of care is required as patients, treatment philosophies, and technology change. The approach is most useful in large hospital systems where there is a significant amount of routine work generated by a large client population.

In SCOPE, the work load is measured by examing individual patient care tasks and translating these into staffing requirements. A different approach to identifying work load, used in a state hospital, described the overall amount of work being done by the organization.[17,18,19] Work load was defined as the relationship between the work being done and the resources available to do the work, rather than by time standards. Work itself was measured by:

- The number of patients evaluated for admission and the number of patients admitted;
- The average number of patients enrolled and the average number of patients attending treatment programs each day;
- The number of patients discharged.

Each type of work was weighted by the overall time required to accomplish it. The number of units of each type of work (e.g., number of admissions) was multiplied by the time required to do it to produce a work load index. The work load index was then related to the average number of full-time-equivalent (FTE) staff available to provide the services. This information allowed an analysis of the type and volume of clinical work being done by various programs (e.g., children, adult, alcoholism) in relation to the staff available. These work load measures were found to be more sensitive in assessing work load and staff productivity than the traditional relation between the number of "average daily attendance" or "average cost per patient." These measures were more sensitive because each evaluation admission, attending patient, or discharged patient required a different amount of work, which was not reflected in the "averages." The measures also described the work load at various points in the system (intake, treatment, discharge), how it varied with patient turnover, and the differences between the work required in adult, children, or alcohol units.

The work load measure could also be used to estimate the number of staff needed as the volume of patients increased or decreased. However, it was found that a portion of staff time varied directly with the volume of patients (e.g., admission evaluations) while another portion of staff time was fixed, (e.g., one nursing staff person on duty at all times). Another portion of staff time changed in a step-wise fashion. If an occupational therapist could manage a maximum of 10 patients at a time, the presence of 11 to 20 patients required two therapists. These fixed and step-wise work load demands prevented staff from changing in direct proportion to the number of patients. The study found that a 100 percent increase in patients required only a 50 percent increase in staff given the existing staffing pattern and treatment standards. Also, a 50 percent decrease in patients allowed only a 24 percent decrease in staff. The study found that a "medium" work load produced the best client outcomes.

The staffing pattern developed in one location cannot be applied intact to any service unit because there are variations in the patient care needs and in the physical capacities of different service units which must be taken into account.

Some points to be noted are:

- A single measure, such as "average daily attendance," may not reflect work load in a sensitive way;
- Work load varies between programs and at different points in the client's treatment episode;
- Increases or decreases in patient volume do not affect staffing requirements in a linear fashion.

Management engineering method. The management engineering approach is similar to that of the industrial engineering model but it includes more than the set of tasks to be done. The method considers program objectives, patient census, work procedures, allocation of the work among staff, and quality control mechanisms as well as the specific tasks to be done. The method assumes there is an "average" patient who requires "average" care; services consist of a set of procedures; current activities reflect desired activities and level of care. Analysis consists of identifying service procedures, the frequency of the occurrence, standard time allowances, decisions as to who can "best" perform tasks, and the most appropriate schedule for performing them. This approach considers more managerial factors than the industrial engineering approach.

One application of management engineering to a nursing unit in a general hospital illustrates two levels of usage.[20,21] One primary goal is to predict the nursing work load considering both direct and indirect inpatient care activities and "other" administrative activities.

The general procedures are:

1. Identify the amount, type, and duration of direct and indirect care provided to patients by staff throughout a 24-hour day by direct observation.
2. Classify patients according to some variable(s) related to the care received, such as diagnosis, degree of illness, or degree of self-sufficiency.
3. Calculate the "average" amount of direct and indirect care time necessary for the "average" patient in each category on each nursing shift.
4. Identify the amount of time spent in all "other" ward management activities by type of staff through work sampling techniques.

The amount of time the staff spends in patient care activities is derived from these observations and usually depends on the number of patients in each category. Time spent in "other" activities (e.g., recording, clean-up, escorting) is relatively constant regardless of the number of patients on the unit.

An equation is then developed which includes the amount of patient care time required for each patient in each category plus a constant amount of time required for "other" activities. This equation is used to predict the number of nursing staff needed per shift based on the daily patient census and the categories of patients. A minimum nursing staff is assigned to the unit with extra staff being added or subtracted as the census of patients increases or decreases. In a hospital unit with a relatively rapid turnover of patients, some additional mechanism is required to provide for rapid re-deployment of staff.

The next level of sophistication is to assess the best mix of the various types of staff. The general procedures are:

1. Develop a list of essential tasks which are categorized by type, e.g., clerical, housekeeping, administrative, nursing.
2. Classify the tasks in each category on the basis of the degree of skill or training required to do them adequately.
3. Assign a "value" to each task when it is performed by each type of staff.

The "value" or "cost" of each staff member to perform the task may be estimated by experts. The "cost" estimate is a combination of direct salary cost for the time spent and the disutility of certain staff members performing

the activity. In this context, it "costs" more for the head nurse to perform the task of "transcribing orders" than for the ward clerk. The time for each task and type of patient is known from the already completed study of patient care.

After the "cost" is assigned to each type and level of task, a computer can produce the "least cost" mix of staff. That is, the result is a staffing pattern which shows the number and type of staff who can perform the "average" nursing tasks, at the least "cost," for different mixes of patients on the ward.

A significant amount of data collection and study are required to establish the tasks and the times required, the classification of patients, and the "cost" of staff. Once these are done, the computer can generate staffing patterns with relative ease provided there are no changes in treatment philosophies or procedures.

Operations research method. Essentially the operations research approach is an extension of the management engineering method. The same types of information are used as well as many of the specific techniques. An important difference is the use of mathematical models to simulate real life situations. The model is then manipulated to explore the simultaneous effects of certain decisions or certain factors.

Operations research models are also used to forecast future service or manpower requirements on a national level. No examples of these elaborate models were found that appeared to be useful at the level of a local or

state mental health agency. Descriptions of these large scale models can be found in several sources.[22,23]

The following illustration is an extension of the approach used in developing staffing patterns for a nursing unit and in identifying the best mix of staff to deliver needed services. In this case the method was applied to a 2,000-bed, psychiatric hospital.[24]

The procedures were:

1. Staff activities were classified into "interchangeable" and "non-interchangeable." The former were the treatment activities that could be performed by more than one type of staff. The latter were patient care and administrative activities that could be performed by only one type of specialist.

2. Groups of professionals were used to assess the "appropriateness" of each type of staff in performing the interchangeable tasks.

3. The time requirements for non-interchangeable activities were determined by the SCOPE method and by observation.

4. The time required for treatment activities was determined by the staff using existing standards or expert judgments.

A computer was used to determine the maximum "appropriateness" scores for the hospital within the constraints of the number and type of staff and the total budget. The results showed the number of hours each month that each type of staff should spend in generic treatment activities under those conditions. This time was in addition to the time spent on non-interchangeable activities.

With the use of the computer, individual components of the model could be changed to see what effect the changes would have on the staffing pattern. Variations could be tested for different types of staff, different numbers of patients, and different treatment philosophies. However, the application of the model to a different setting would require a new survey of patient needs and analysis of staff functions because there are substantial differences between settings.

The methodology requires sophistication in computer technology and data collection, as well as time and effort in developing and maintaining the data base. At this time, it is difficult to say whether staffing patterns developed in this way are more effective or efficient than those developed by less sophisticated approaches.

Staffing Needs Planning

A fourth major area of manpower need assessment focuses on maintaining the work force after the staffing pattern is established. Many of the issues related to maintaining staffing levels are the concern of the agency's personnel office including:

- recruitment and selection;
- evaluation of salary schedules;
- job classification;
- performance appraisal;
- determining training needs;
- turnover analysis.

The manpower planner can often call upon the expertise of personnel specialists to help with these issues. Excessive turnover of staff can be a costly and disruptive event for an agency. Usually, turnover is related to the length of service of the worker, i.e., most turnover occurs in the first year after employment, but turnover rates vary in different agencies.[25] The manpower planner should know the specific turnover patterns for the agency in order to plan the timing of recruitment programs and of training programs that may be offered to staff at different times in their employment career. The agency will not want to provide "management" training to new employees if it is likely that many will not remain with the agency.

Personnel offices should be involved in manpower development through more than just their hiring and termination procedures. They have significant roles in the development of rational salary scales and career ladders as well as in performance appraisal and identification of needs for training or other staff development programs.[26]

In order to plan and maintain the work force, the manpower planner must have information on the composition of the work force. Baseline information on employees should be able to answer such questions as:

- How many staff do we have?
- What are their significant characteristics?
- What do staff do?
- Where are they located?
- How are they utilized?

Both national and local agencies have recognized the need for improved manpower data.[27,28] State mental health agencies have difficulty in collecting reliable data on the people they have employed because of the lack of standard definitions for the various manpower components. The initial need is for such a set of common and standard definitions of terms and reporting procedures. The next step is to select the significant data items to address the recurring manpower questions. The staff data currently proposed by the NIMH Mental Health Statistical Improvement Program is intended to define a minimum set of data items to answer such questions. Currently, a pilot effort is underway to collect compatible manpower data across eight states.[29] The results will assist manpower planners in determining what manpower data will be feasible and useful.

SUMMARY

The purpose of this chapter has been to present the major categories of manpower need assessment methods and examples of their use in mental health agencies. The methods vary from simple to sophisticated. Each method is useful in some situations but at this time there is no "guaranteed" way of producing a sure fire staffing pattern or staffing standards. The manpower planner must adapt the methods to fit the purposes and needs of the specific agency for which he is doing the planning.

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